

## MISCELLANEOUS NOTES

### 1. STATUS AND ECOLOGY OF WILD BUFFALO (*BUBALUS BUBALIS* LINN.) IN CHANDRAPUR DISTRICT OF MAHARASHTRA

#### INTRODUCTION

Dunbar Brander reported two small herds of Wild Buffalo in Allapalli division of South Chanda. He also reported a few herds in the Ahiri blocks of North Chanda. Since then, there has been no authentic report on the status of Wild Buffalo in Chandrapur District. In the last 75 years, most of the forest in North Chanda and Ahiri have disappeared, so also the natural habitat suitable for Wild Buffalo. Mr. Rego, Chief Wild Life Warden of Maharashtra in 1976 informed us that the only area where Wild Buffalo could still occur is the forest ranges of Tadgaon and Bhamragarh, of Allapalli division. These forest ranges adjoin Bastar district of M.P. Daniel and Grubh (1966), in their report on Indian Wild Buffalo, had estimated a strength of 200 to 250 Wild Buffaloes in West Bastar Division adjoining Allapalli division. H. K. Divekar (1976) estimated a strength of about 50 animals in the same area. In order to establish the present status of Wild Buffalo in Maharashtra resident or migratory between Maharashtra and Bastar, M.P. a survey was undertaken by us.

#### AREA SURVEYED

Chandrapur District borders Bastar district of M.P. the boundaries being Indravati river in the South and Kuvakodi hills in the west. In Allapalli division, several perennial rivers

flow amidst mountainous terrain, the major ones being Indravati, Parlakota, Bandia, Pamalgotam. There are a tangle of hills in this division chiefly Lahir Bhamragarh hills, and Surajgarh hills, the hill ranges rise on an average to elevation of about 700 metres, the highest being 935 metres. The Bhamragarh hills overlook the confluence of the Indravati and two of its right bank tributaries, the Parlakot and Pamalgotam.

There are many small and big lakes in Allapalli division, the major ones being Mirkal lake near Madepalli, two more near Manne Rajaram and Echeli near Tadgaon, a minor irrigation bund near Mallampattu and a large tank near Pirimili.

*Forests:* Allapalli holds some of the best quality teak trees in Asia with heights ranging upto 125 feet. The quality of the timber of this forest are rated next to Burma teak. Besides teak, sisam (*Dalbergia sissoo*), Bija (*Pterocarpus marsupium*), Simul (*Gossypium arboreum* & *Gossypium herbaceum*) are also common. The Ballarpur Paper & Strawboard Mills is based on this forest wealth.

Due to ever increasing demand of timber and in particular bamboo for paper pulp, the quality of forest and density has been considerably eroded. Virgin forest tracts in the Kuvakodi hills on the eastern boundary have now been taken up for bamboo extraction (140 kms east from Allapalli) since the time of this survey. Thus beginning the destruction of the last virgin bamboo forest in Chandrapur dis-

tract. The Allapalli division has the highest percentage of forest area approximately 92% of the total area. The list of the main flora of Bhamraragh range is given in table 2.

*Method of Survey:* In absence of any authentic record of occurrence of Wild Buffalo in any particular part of the survey area, it was decided to examine the entire Indravati river bank falling within the periphery of the survey area and also a major part of the tributaries, village tanks and water bunds. All forest areas where Wild Buffalo occurrence was reported by tribals and forest officials was also investigated. The Wild Buffalo occurring in a particular forest block, would come down to graze on the grass growing along the river banks, to drink and wallow and thereby leave sufficient evidence of possible pockets of occurrence and herd strength. The survey area was divided into 3 blocks. Each block was exhaustively surveyed. The survey party was divided into groups and each group was given an independent specified area. Each group was led by a competent field investigator. Each area was planned to be visited twice to avoid any omission and also to record fresh indications or tracks of wild Buffaloes. The leader of each group was also required to report on birds, mammals and general floristic situation.

The survey was completed on foot. Assistance of tribal guides and local forest guards was sought for individual groups. The field notes included location, identification, sketch, of tracks, sightings, droppings, general description of the habitat, human interference, interviews with local people etc.

*General Account of Survey:* The survey was planned to be conducted sometime between December to May when the area becomes accessible. Block 1 was surveyed between 7th May to 12th May, 1978. The Block 2 Itapalli Surajgarh was surveyed

between 28th December, 78 to 4th January, 79. Block 3 was surveyed between 9th to 13th May, 79. The area surveyed, investigator groups, observations are shown in table 1.

*Habitat:* The Allapalli forest division of Chandrapur district is one of the more heavily worked forests in Maharashtra. Several thousand hectares of forests have been clear felled and new teak plantations are coming up every year. Excepting pockets in Kuvakodi hills, there is no virgin forest left. One often sees clearings in the forest made by the gonds for purposes of their "Gata" cultivation. These are plots chosen near Adivasi villages. Many of them are left as waste lands. Over 100 commercial forest department heavy vehicles ply on the interior forest roads, right up to southern and eastern boundaries of the district for transporting bamboo, teak, charcoal and other forest produce like bedi leaves and lac. Adivasi Gond villages are set up all along the perennial river banks of Allapalli division and in Gatta range.

Other than the teak plantations, the forest has been affected by human influence so much so that natural forests are minimal. The area is heavily over grazed and trampled by domestic cattle and sheep. The effect of villages can be seen for atleast 1 km radius around each village and right upto Indravati river. Under these conditions, it is very difficult for the wild buffalo to inhabit the area.

All along the Indravati river, downstream from Bhamraragh upto the confluence of its right hand tributaries Bandia and Pirimili rivers approximating to 28 Kms., there are many heavy grass patches and thickets and water pools which are ideal wild buffalo habitat. However, many villages like Palli, Boria, Jarewada, Manne Rajaram etc. are situated. Also along the banks of the Indravati river huge charcoal ovens are permanently set up a

few hundred yards from the river banks. It is unlikely therefore, that the wild buffaloes cross over and stray into forest coming under Tadgaon range of Allapalli division. The Indravati river on its Maharashtra side banks upstream from Bhamragarh to Kundanallah confluence has almost lost its natural habitat of grass patches and thickets and are heavily trampled by domestic cattle and over grazed. The river basins of Pamalgotam and Parlakota upstream the confluence of Indravati passes through some grass patches. Though the forest is almost plain, the habitat is devoid of virgin grass forage grounds. All the tributaries of Indravati river run dry in hot season and the habitat is unsuitable as there is hardly any undergrowth or water pools. The habitat in Gatta and Itapalli range have no perennial water source and neither suitable forage grounds ideal for wild buffalo. Elephant grass grows in patches upto 1.80-2.10 m and can be seen in Bhamragarh and Itapalli range. These are normally the grazing ground for the village cattle. The forest block around Mirkal lake, forest patches at Thalwada and interior of Lahiri and Kuvakodi hills and valleys are the potential habitats left over in the Allapalli division. Some indications of existence of wild life and virgin flora can be seen in the above forest patches.

*Human Interference:* Bhamragarh and Tadgaon forest ranges have several revenue villages. A large net work of fair weather roads connect these villages with main activity centres like Bhamragarh, Tadgaon, Itapalli, Allapalli etc. These villages are populated by tribals like Gond, Pradhan, Halba, Kawar, Maria & Murias etc. Maria & Muria tribes are the ones who account for the maximum interference and hunting of wild life, whereas Halbas, Pradhans and Gonds chiefly account for des-

truction of the habitat and domestic cattle rearing.

For the bulk of the Adivasi population, cultivation is merely a secondary means of winning a livelihood and serves only to supplement the food supply from forest produce. For the Muria tribals, hunting is the main livelihood in the hot months from February to May. No animal, bird, or reptile is spared in these communal hunts.

Each and every event from ploughing to reaping, birth of a child or death in a village, marriage, and other communal festivities only begin with hunting and drinking liquor. One can see the effect when he passes from one range of forest to another range without seeing a single indication of existence of wild life for several kilometres.

Often, the tribals have to be on the hunt for several days or intrude into Bastar district to procure a single animal to begin the festive event.

Though nothing was reported or seen by the survey party during the survey, illegal poaching by traders, contractors and others cannot be ruled out. During interviews with villagers, and others, it was reported that almost all the villagers own one or two fire arms like muzzle loading guns. These are systematically used in the hunting grounds by these tribals. It was also reported that illegal ammunition traders and suppliers have regular contact with the tribals.

All living animals and birds including sparrows, rats are eaten by the tribals. Similarly, many varieties of wild fruits, bamboo shoots, roots, green vegetable matter also form the staple food of the tribals. Cattle is the main pest of the forest. With non-availability of veterinary knowledge or facility, there is no prevention or cure for the cattle which may contract and spread disease to whatever remains of the wild life.

*Interviews:* Taperecorded and oral interviews with various forest officers, Shikaris, forest guards, plantation managers, tribals, Interviews with J. K. Sangode, Deputy Engineer, Irrigations, Madhav Naik, R.F.O., Gagga Papaya, Shikari guide and Gurmukh Singh, Asst. Forest Manager, Ballarpur paper Mills gave information about local flora and fauna. Mr. Gagga Papaya informed that the last Wild Buffalo hunt party was arranged for Mr. Nanavati, an I.C.S. Officer about 20 years ago. He was uncertain of the facts and the year of the hunt. However, he stated that one wild buffalo was killed during the hunt and he also mentioned that the party had to cross over to Bastar district to kill the Buffalo.

Katugagru Pongati tribal of Golaguda (Age 30) stated that there are no wild buffaloes between Bhamragarh and Nilkonda. He has neither seen one nor their tracks. He reported that cattle lifting by tigers was very common. All the survey parties of Block 3 reported fresh tiger pug marks. Spotted deer were commonly seen near plantations. One of us (HKD) saw on all his four visits to the area, spotted deer in herds of 3 to 8 on the road from Allapalli to Itapalli and also from Allapalli to Mirkal. Sloth bear are very common in the hilly terrain. Many accidents are reported in encounters with bears. Mr. Sharad Kulkarni stated that every year, 2 to 3 cases of bear attack victims are brought to him for treatment. Tribals reported that they are attacked by bears while hunting for deer, monkeys etc. Leopards are sighted often on forest roads around Bhamragarh. Gaur are reported to have been sighted near Mirkal lake and Lahiri hills. Other than these, monkey, flying squirrels, sambar, blue bull, four horned antelope, porcupine, jackal, jungle cat are reported seen by many tribals. Dr. Prakash Amte at

Hemelkasa, 2 Km from Bhamragarh maintains a private zoo to house the wounded, orphan or trapped wild animals. The collection is an evidence of the occurrence of wild life in the area.

#### DISCUSSION

Dunbar Brander mentioned 2 small herds of cows and a few solitary bulls in the Allapalli and Gatta ranges of South Chanda District in 1904. He also mentioned that south eastern portion of Allapalli and in Ahiri state, they were somewhat more common and observed it was unlikely that these herds could have increased since 1904. He predicted their disappearance from these areas unless they are migrating from the neighbouring forest of Bastar. Dunbar Brander writing on the same topic mentioned their earlier range from records in Yewatmal and Bhandara districts and also in north Chanda, and wrote they had disappeared from the above tracks. Other sportsmen and naturalists have not ventured to assess the status or occurrence in Allapalli division in South Chanda. Wanting authentic records, the status of wild buffalo in Chandrapur District of Maharashtra has been a subject of guess work. Chandrapur Dist. Gazetteer is given as wild buffalo, "Jungli Bhainse" (*Bubalus bubalis*) used to be noticed occasionally in small herds around Mirkal tank near Allapalli, where they migrated in small numbers from the adjoining forest of Madhya Pradesh during spells of hot weather. The above report in gazetteer coincides with the writings of Dunbar Brander. It can be well argued that the statement in the Dist. Gazetteer is derived from Dunbar Brander's report. Allapalli forest division of South Chanda District is known for its valuable timber and bamboo. The habitat has lost all its natural features possibly after the starting of

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Ballarpur Paper Mills and Teak Plantations by forest department. Our survey is the first attempted status and ecology survey of wild buffalo in Allapalli division of South Chanda District. This area was the only possible habitat left in Maharashtra suitable for wild buffalo. The destruction of the habitat and disappearance of grass patches and clearings due to over grazing by domestic cattle, the ever increasing net work of roads into inaccessible areas, charcoal ovens along the river banks, the continuous round the clock heavy commercial vehicle traffic, the opening of new mining complexes around Surajgarh etc., jeopardises the occurrence of wild life and the wild buffalo has become a legend.

SUMMARY

It can be safely concluded that the wild buffalo has disappeared from South Chanda Division of Maharashtra for quite some time. The forest has lost the suitable habitat

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which once supported a few localised herds. One can see glimpses of their habitat in the adjoining Bastar District where few herds still survive near the perennial Indravati river.

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REFERENCES

DANIEL, J. C. & GRUBH, R. B. (1966): The Indian Wild Buffalo, *Bubalus bubalis* (Linn.) in Peninsular India. *J. Bombay nat. Hist. Soc.* 63(1): 32-53.

DIVEKAR, H. K. (1976): A Re-survey of the status of Wild Buffaloes in West Bastar, Madhya Pradesh. *ibid.* 73(2): 382-385.

2. COURTSHIP AND MATING IN THE INDIAN SHEATH-TAILED BAT, *TAPHOZOUS LONGIMANUS LONGIMANUS* (HARDWICKE)

Courtship and mating of bats in natural condition are little known. Khajuria (1972) observed these activities in *Rhinopoma h. hardwickei* Gray. Gopalakrishna (1954, 1955),

Ramaswamy (1961) and Madhavan (1971, 1978) have studied the breeding habits of several species of bats but have not covered courtship and mating. We had the opportu-